

CLAIMS

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SUB C' 1. An enzymatic nucleic acid molecule which specifically cleaves RNA derived from a TERT gene, wherein said enzymatic nucleic acid molecule comprises any of the ribozyme sequences defined in tables III, IV, V and VII.
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SUB E 2. An enzymatic nucleic acid molecule which specifically cleaves RNA derived from a TERT gene, wherein said enzymatic nucleic acid molecule is a DNA enzyme.
- 10 3. An enzymatic nucleic acid molecule of claim 2, wherein said enzymatic nucleic acid molecule comprises any of the DNAzyme sequences defined in table VI.
- 10 4. An enzymatic nucleic acid molecule which specifically cleaves RNA derived from a TERT gene, wherein said enzymatic nucleic acid molecule comprises sequences that are complementary to any of substrate sequences defined in tables III-VI.
- 15 5. An antisense nucleic acid molecule comprising sequence complementary to any of substrate sequence in Tables III-VI.
6. The enzymatic nucleic acid molecule of any of claims 1, 2 and 4, wherein said enzymatic nucleic acid is chemically synthesized.
- 20 7. The enzymatic nucleic acid molecule of any of claims 1, 2 and 4, wherein said enzymatic nucleic acid comprises at least one 2'-sugar modification.
8. The enzymatic nucleic acid molecule of any of claims 1, 2 and 4, wherein said enzymatic nucleic acid comprises at least one nucleic acid base modification.
9. The enzymatic nucleic acid molecule of any of claims 1, 2 and 4, wherein said enzymatic nucleic acid comprises at least one phosphate backbone modification.

10. The antisense nucleic acid molecule of claim 5, wherein said antisense nucleic acid is chemically synthesized.
11. The antisense nucleic acid molecule of claim 5, wherein said antisense nucleic acid comprises at least one 2'-sugar modification.
- 5 12. The antisense nucleic acid molecule of claim 5, wherein said antisense nucleic acid comprises at least one ~~nucleic acid~~ base modification.
13. The antisense nucleic acid molecule of claim 5, wherein said antisense nucleic acid comprises at least one phosphate backbone modification.
14. A mammalian cell including the enzymatic nucleic acid molecule of any of claims 1, 2, 4 and 5, wherein said mammalian cell is not a living human.
15. The mammalian cell of claim 14, wherein said mammalian cell is a human cell.
16. A method of inhibiting telomerase enzyme activity in a cell, comprising the step of contacting said cell with the enzymatic nucleic acid molecule of any of claims 1, 2 and 4, under conditions suitable for said inhibition.
- 15 17. A method of inhibiting telomerase enzyme activity in a cell, comprising the step of contacting said cell with the antisense nucleic acid molecule of claim 5, under conditions suitable for said inhibition.
- 20 18. A method of treatment of a patient having a condition associated with the level of TERT, comprising contacting cells of said patient with the enzymatic nucleic acid molecule of any of claims 1, 2, and 4, under conditions suitable for said treatment.
19. The method of claim 18 further comprising the use of one or more drug therapies under conditions suitable for said treatment.

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20. A method of treatment of a patient having a condition associated with the level of TERT, comprising contacting cells of said patient with the antisense nucleic acid molecule of claim 5, under conditions suitable for said treatment.
21. The method of claim 20 further comprising the use of one or more drug therapies under conditions suitable for said treatment.
22. A method of cleaving RNA encoded by a TERT gene, comprising, contacting the enzymatic nucleic acid molecule of any of claims 1, 2 and 4 with said RNA under conditions suitable for the cleavage of said RNA.
- 10 23. The method of claim 22, wherein said cleavage is carried out in the presence of a divalent cation.
24. The method of claim 23, wherein said divalent cation is Mg^{2+} .
25. The enzymatic nucleic acid molecule of claims 1, wherein said enzymatic nucleic acid molecule comprises any of sequences of table III.
26. The enzymatic nucleic acid molecule of claims 1, wherein said enzymatic nucleic acid molecule comprises any of sequences of table IV.
- 15 27. The enzymatic nucleic acid molecule of claims 1, wherein said enzymatic nucleic acid molecule comprises any of sequences of table V.
28. The enzymatic nucleic acid molecule of claims 1, wherein said enzymatic nucleic acid molecule comprises any of sequences of table VII.
- 20 29. The enzymatic nucleic acid molecule of any of claims 1, 2 and 4, wherein said enzymatic nucleic acid comprises a cap structure, wherein the cap structure is at the 5'-end or 3'-end or both the 5'-end and the 3'-end.
- 25 30. The antisense nucleic acid molecule of claim 5, wherein said antisense nucleic acid comprises a cap structure, wherein the cap structure is at the 5'-end or 3'-end or both the 5'-end and the 3'-end.

add R'